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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/629,653	08/01/2000	Nicolas Vazquez	5150-45000	7618

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EXAMINER
KISS, ERIC B

ART UNIT	PAPER NUMBER
2122	

DATE MAILED: 08/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/629,653	VAZQUEZ ET AL.	
	Examiner	Art Unit	
	Eric B. Kiss	2122	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 May 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *27-59* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *27-59* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 May 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The amendment of May 27, 2003, has been received and entered. Claims 1-26 have been cancelled. Claims 27-59 have been added and are pending.

Information Disclosure Statement

2. On page 20, in lines 25-28 of the instant specification, it is suggested that a document titled "IMAQ Vision User Manual," available from National Instruments Corporation is relevant to the disclosed invention. Please provide a copy of this document so that it can be made part of the record and be fully considered by the Examiner.

Response to Amendment

3. Applicant's cancellation of all previous claims (1-26) and submission of new claims 27-59 renders moot all previous claim objections and claim rejections as detailed in the previous office action. Accordingly, all claim objections to, and rejections of claims 1-26 are withdrawn.

4. Applicant's amendments to the specification appropriately address the objection to the specification based on the use of trademarks as detailed in the previous office action. Accordingly, this objection is withdrawn in view of Applicant's amendments.

Response to Arguments

5. Applicant's arguments filed May 27, 2003, have been fully considered but they are not persuasive.

6. In response to Applicant's arguments in the last paragraph of page 12, continuing onto page 13:

i) Figures showing every element of Figs 1A 1B and 2 can be found in the prior art in, for example, is U.S. Patent No. 6,282,699 to Zhang et al. (see Figs. 1 and 1A) and U.S. Patent No. 6,243,738 to Hayles et al. (see Fig. 3). Although Applicant has argued that ***computer system 102 in each of Figures 1A, 1B and 2 contain software programs according to the invention,***

there are no features of these software programs according to the present invention illustrated, i.e., none of Figs. 1A, 1B, and 2 illustrate any features of the software components according to the present invention in a way distinguishing them from the prior art.

ii) Although Applicant argues on page 13, with regard to Figs. 4-11, "***Applicant does not believe that the content of each of these figures is in fact prior art***", figures showing every element of Figs. 4-11 can be found in the prior art in, for example, "IMAQ™ Vision Builder Tutorial," January 1999, as submitted in Applicant's Information Disclosure Statement (see Figs. 2-4, 3-1, 3-2, 3-3, 2-5, 3-4, 3-5, and 3-6). In particular, Applicant's Figs. 5-7 and 9-11 are nearly identical to the above-cited prior art Figs. 3-1, 3-2, 3-3, 3-4, 3-5, and 3-6, respectively. The Examiner severely doubts, based on this evidence, that Applicant's Figures 4-11 illustrate any contribution over the prior art of record. Upon further inspection, it has been determined that Applicant's Fig. 22 is also nearly identical to Fig. 3-8 of the above-cited prior art reference.

7. In response to Applicant's arguments on page 14, in paragraphs 3-4, continuing onto page 15, the Pizano reference discusses testing an image processing algorithm (a form recognition system) in order to determine its accuracy and efficiency (see column 10, lines 27-31). As part of the efficiency testing, Pizano et al. describe performing a group of tests (separate from the accuracy tests), in which 100 input images (forms) are processed by the algorithm and the elapsed time is measured and used to determine an average amount of time required (see column 11, lines 34-42; and Fig. 11). Thus, the Examiner maintains that the Pizano et al. reference is directed to evaluating the performance of an image processing algorithm. Further, it

is asserted that accuracy and efficiency testing of a program can be considered part of an interactive development process.

8. In response to Applicant's arguments on page 15, in paragraphs 3-8, these arguments are all directed toward newly claimed limitations, the merits of which are addressed as set forth in the rejections below.

9. In response to Applicant's arguments on page 16, in paragraph 2, the rationale supplied in the rejection of original claim 12 has been modified in the rejection of claim 47 below.

Drawings

10. The corrected or substitute drawings were received on May 29, 2003. These drawings are not acceptable. The substitute drawings submitted do not appropriately address the issue of prior art as discussed above and in the objections maintained and reproduced below.

11. Figures 1A, 1B, 2, 4-11, and 22 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

12. The drawings are objected to because reference number "12" in Fig. 2 should presumably read --102--. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

13. In addition, reference is made to a "FieldPoint" in Fig. 1B as well as in page 12, lines 3-4, but no reference number is assigned to this feature. Applicant is encouraged to include a reference number to improve clarity and consistency in the figure and specification.

Claim Rejections - 35 USC § 112

14. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

15. Claims 27-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 27 and 41 each recite the limitation "said executing the image processing algorithm" in lines 7-8 and 8-9, respectively. There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, the step in each of claims 27 and 41 containing this limitation is interpreted as if it is combined with the step immediately following it, i.e. the combined steps are interpreted as "**receiving user input specifying a**

plurality of images and executing the image processing algorithm on each of said plurality of images" for the purpose of further examination.

Claim 40 recites the limitation "said programmatically changing the image processing algorithm" in line 4. There is insufficient antecedent basis for this limitation in the claim. Based on the presentation order of the claims, it is presumed that the Applicant intended claims 39 and 40 to depend from claim 38 rather than presently indicated claim 37. In the interest of compact prosecution, claims 39 and 40 are interpreted as though they depend from parent claim 38 for the purpose of further examination.

Claims 28-40 and 42-46 are rejected based on inherited parent claim limitations, which are rejected as set forth above.

Claim Rejections - 35 USC § 102

16. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

17. Claims 47, 49-51, and 53-59 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,298,474 to Blowers et al.

As per claims 47 and 51, Blowers et al. disclose performing one or more image processing functions on an image in response to user input (see column 2, lines 47-55); recording the one or more image processing functions, wherein the one or more image processing functions define an image processing algorithm (task sequence generation; see column 8, line 61 through

column 9, line 15); executing the image processing algorithm in response to user input, wherein said executing the image processing algorithm comprises executing executable code associated with each of said image processing functions defining the algorithm (executing the sequence; see column 9, lines 16-25); measuring and displaying information indicating an amount of time that elapses during said executing the image processing algorithm (see, for example, Fig. 9, along with the description of "TimeTaken" in the table of column 13); and programmatically changing the image processing algorithm in order to reduce the execution time of the image processing algorithm (see, for example, the "Stop Result By" and "Stop Result Count" fields in the "Blob Properties" dialog box of Fig. 7).

As per claims 49, 50, 53 and 54, Blowers et al. further disclose programmatically changing one or more parameters, including changing a number of pixels used, in at least one image processing function in the algorithm (see, for example, Figs. 7 and 8; and column 9, lines 7-15).

As per claims 55-59, Blowers et al. disclose performing a plurality of image processing functions on an image in response to a user input (see column 2, lines 47-55); recording the plurality of image processing functions, wherein the one or more image processing functions define an image processing algorithm (task sequence generation; see column 8, line 61 through column 9, line 15); receiving user input specifying a plurality of images and executing the image processing algorithm on each of said plurality of images (executing the sequence; see column 9, lines 16-25); measuring and displaying information indicating an amount of time that elapses during said executing the image processing algorithm (see, for example, Fig. 9, along with the description of "TimeTaken" in the table of column 13); displaying information indicating

suggested changes to the image processing algorithm in order to reduce the execution time of the image processing algorithm; receiving user input requesting the suggested changes to be made automatically; and programmatically making the indicated changes to the image processing algorithm by changing parameter values associated with image processing functions (see, for example, the "Stop Result By" and "Stop Result Count" fields in the "Blob Properties" dialog box of Fig. 7).

Claim Rejections - 35 USC § 103

18. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

19. Claims 48 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,298,474 to Blowers et al.

As per claims 48 and 52, Blowers et al. disclose such a method (see disclosure applied above to claims 47 and 51) but fail to expressly disclose receiving a user input to undo changes. However, Official Notice is taken that it has been well known and practiced to incorporate "undo" commands into user interfaces of programs that involve user-editable features. One example of this practice can be found within the MICROSOFT WORD software for word processing, in which the "Edit" menu provides an "Undo" command for undoing user-initiated actions (as well as some automatic actions such as automatic formatting). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was

made to modify the method of Blowers et al. to include an undo command selectable by a user for undoing changes made to the image processing algorithm. One would be motivated to do so gain the advantage of allowing the user to correct unintentional changes.

20. Claims 27-30, 33-44, and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,298,474 to Blowers et al. in view of U.S. Patent No. 5,293,429 to Pizano et al.

As per claims 27 and 41, Blowers et al. disclose performing a plurality of image processing functions on an image in response to a user input (see column 2, lines 47-55); recording the plurality of image processing functions, wherein the one or more image processing functions define an image processing algorithm (task sequence generation; see column 8, line 61 through column 9, line 15); receiving user input specifying a plurality of images and executing the image processing algorithm on each of said plurality of images (executing the sequence; see column 9, lines 16-25); measuring and displaying information indicating an amount of time that elapses during said executing the image processing algorithm (see, for example, Fig. 9, along with the description of "TimeTaken" in the table of column 13). Blowers et al. fail to expressly disclose determining an average amount of time required to execute the image processing algorithm. However, Pizano et al. teach determining an average amount of time required to execute an image processing algorithm by using a plurality of input images (see column 11, lines 34-42). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the method of Blowers et al. to include determining an average amount of time required to execute an image processing algorithm by using a

plurality of input images as per the teachings of Pizano et al. One would be motivated to do so to be able to benchmark an image processing system and produce a meaningful estimate of system capabilities.

As per claims 28 and 42, Blowers et al. further disclose displaying information indicating a rate at which the image processing algorithm is capable of processing images, based on the amount of time that elapses during said executing the image processing algorithm (see, for example, Fig. 9, along with the description of "GetMinimumTime" in the table of column 13). Blowers et al. fail to expressly disclose basing the rate on the average execution time. However, as described above, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the method of Blowers et al. to include determining an average amount of time required to execute an image processing algorithm by using a plurality of input images as per the teachings of Pizano et al. One would be motivated to do so to be able to benchmark an image processing system and produce a meaningful estimate of system capabilities.

As per claims 29 and 43, Blowers et al. further disclose determining the minimum time required for executing the image processing algorithm (see the description of "GetMinimumTime" in the table of column 13). Therefore, for reasons stated above, such claims also would have been obvious.

As per claims 30 and 44, Blowers et al. further disclose displaying time information corresponding to each execution iteration in a structure display (see, for example, the rolling results window in Fig. 9).

As per claims 33-35 and 46, Blowers et al. disclose measuring an amount of time that elapses during said executing the image processing algorithm for each of a plurality of image processing categories (see, for example, Fig. 9, along with the description of "TimeTaken" in the table of column 13; the tasks of Blowers et al. include such categories as acquisition, control-flow, and image data manipulation); and displaying information indicating the amount of time that elapses during said executing the image processing algorithm for each of the plurality of image processing categories (see "Time Taken" for various categories illustrated in Fig. 9). Blowers et al. fail to expressly disclose determining average amounts of time. However, as described above, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to modify the method of Blowers et al. to include determining an average amount of time required to execute an image processing algorithm by using a plurality of input images as per the teachings of Pizano et al. One would be motivated to do so to be able to benchmark an image processing system and produce a meaningful estimate of system capabilities.

As per claim 36, Blowers et al. further disclose determining memory requirements for the image processing functions (see, for example, the description of "GetMemorySize" in the table of column 13). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claim 37, Blowers et al. further disclose generating a graphical data flow diagram that implements the image processing algorithm (see, for example, Fig. 6 and column 8, lines 61-67). Therefore, for reasons stated above, such a claim also would have been obvious.

As per claims 38-40, Blowers et al. further disclose displaying information indicating suggested changes to the image processing algorithm in order to reduce the execution time of the

image processing algorithm; receiving user input requesting the suggested changes to be made automatically; and programmatically making the indicated changes to the image processing algorithm by changing parameter values associated with image processing functions (see, for example, the "Stop Result By" and "Stop Result Count" fields in the "Blob Properties" dialog box of Fig. 7). Therefore, for reasons stated above, such claims also would have been obvious.

21. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blowers et al. in view of Pizano et al. as applied to claim 30 above, and further in view of U.S. Patent No. 5,748,878 to Rees et al.

As per claim 31, Blowers et al. discloses displaying time information in a structured display (see the disclosure applied above to claim 30) but fail to expressly disclose receiving a user input to sort the time information. However, Rees et al. teach a function performance structured display comprising time information corresponding to a plurality of execution iterations, wherein the structured display further comprises a "Sort_" menu item (see Fig. 9). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the method of Blowers et al. to include a structured display with user-selectable sort capabilities as per the teachings of Rees et al. One would be motivated to do so to gain the advantage of allowing the user to customize a structure data display to suit his or her needs or preferences.

22. Claims 32 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blowers et al. in view of Pizano et al. as applied to claim 27 above, and further in view of "Solaris User's Guide," 1995, Sun Microsystems, Inc. (hereinafter *SUG*).

As per claims 32 and 45 Blowers et al. in combination with Pizano et al. suggest such a method (see disclosure and teachings applied above to claims 27 and 41) but fail to expressly disclose displaying a clock icon, which visually indicates the time data. However, *SUG* teaches a Performance Meter window with a dial display for monitoring aspects of system performance (see pages 323-330). Therefore, it would have been obvious to one having ordinary skill in the computer art at the time the invention was made to further modify the method of Blowers et al. to include such a display for visually indicating the time data. One would be motivated to do so enhance the aesthetic qualities of a performance display.

Conclusion

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Kiss whose telephone number is (703) 305-7737. The examiner can normally be reached on Tue. - Fri., 7:30 am - 5:00 pm. The examiner can also be reached on alternate Mondays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Dam can be reached on (703) 305-4552.

Any response to this action should be mailed to:
Commissioner for Patents
P.O.Box 1450
Alexandria,VA 22313-1450
Or faxed to:
(703) 746-7239 (for formal communications intended for entry)
Or:
(703) 746-7240 (for informal or draft communications, please label "PROPOSED" or "DRAFT")
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, 22202, Fourth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

EBK / EBK
August 5, 2003

TUAN Q. DAM
PRIMARY EXAMINER